WHAT IS CLAIMED IS:

1. A method of sharpening a digital image having image pixels according to its noise content, comprising the steps of:

a) providing an image sharpener having a variable parameter of sharpening;

b) generating a noisy pixel belief map corresponding spatially to the image pixels having belief values indicating the likelihood that the modulation about respective pixels are due to system noise; and

c) using the noisy pixel belief map to vary the parameter of the image sharpener.

2. The method claimed in claim 1, wherein the belief values in the noisy pixel belief map are derived from local signal to noise ratios.

3. The method claimed in claim 1, wherein the step of generating a noisy pixel belief map comprises the steps of:

b1) creating a low resolution version of the digital image;

b2) generating a low resolution noisy pixel belief map from the low resolution version of the digital image; and

b3) interpolating the low resolution noisy pixel belief map to produce the noisy pixel belief map.

4. The method claimed in claim 1, wherein the digital image includes two or more channels and the step of generating a noisy pixel belief map comprises the steps of:

b1) providing a noise table indicating the relationship, for each channel of the digital image, between pixel intensity and expected noise magnitude;

b2) calculating a signal to noise ratio for at least one pixel of the digital image, the signal to noise ratio based on the noise table; and

b3) computing a belief value of the noisy pixel belief map from the signal to noise ratio.

5. The method claimed in claim 1, wherein the digital image is a color digital image having two or more channels and including the steps of forming a luminance channel as a weighted sum of the two or more channels; and applying the image sharpener to the luminance channel.

6. The method claimed in claim 5, wherein the noisy pixel belief map is generated using weighting coefficients employed in the weighted sum.

7. The method claimed in claim 6, wherein the step of generating a noisy pixel belief map comprises the steps of:

b1) providing a noise table indicating the relationship, for each channel of the digital image, between pixel intensity and expected noise magnitude;

b2) calculating a signal to noise ratio for at least one pixel of the digital image, the signal to noise ratio based on the noise table weighted by a corresponding weighting coefficient; and

b3) computing a belief value of the noisy pixel belief map from the signal to noise ratio.